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TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265				LAXTON, GARY L
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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/646,854  
Filing Date: August 26, 2003  
Appellant(s): TRAFTON ET AL.

**MAILED**

APR 06 2006

**GROUP 2800**

W. Daniel Swayze, Jr.  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 1/17/2006 appealing from the Office action mailed 1/27/2005.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is incorrect. A correct statement of the status of the claims is as follows:

This appeal involves claims 1-4, 11 and 12.

Claims 5-10 and 14-19 have been allowed.

Claim 13 has been canceled not "subsequently claimed" as stated in the appeal brief.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

6,724,174	Esteves et al	04/2004
6,489,756	Kanouda et al	12/2002
6,452,368	Basso et al	09/2002
5,969,512	Matsuyama	10/1999

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanouda et al (US 6,489,756).

Claims 1 and 11; Kanouda et al discloses a circuit, comprising: a plurality of terminals including at least one output terminal (Figure 1, the output of drive circuit 14) and at least one input terminal (input to element 72 from the load output 6); and a configurable voltage regulator (figure 1) operable in a first mode (linear) or a second mode (switching), comprising: output driver circuitry (14), control circuitry (10b, 11, 13), having an output (output of 13) coupled to the output driver circuitry (14), and including a plurality of elements; configuration circuitry (52) receiving a configuration signal (51); and at least one configuration switch (12a or 12b), for selectively coupling elements of feedback circuitry (7, 9) to the output driver circuitry (through 13) responsive to control signals from the configuration circuitry (52), as shown in figure 1.

However, Kanouda et al do not disclose the circuit being integrated. It has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art. *Howard v. Detroit Stove works*, 150 U.S. 164 (1893).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to make the circuit of Kanouda et al integrated in order to simplify circuit design, reduce manufacturing costs and reduce the overall size of the power supply.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanouda et al (US 6,489,756) in view of Esteves et al (US 6,724,174).

Claim 2; Kanouda et al discloses the claimed subject matter in regards to claim 1 supra, except for the configuration circuitry (52) comprises: a configuration amplifier, having a first input connected to the input terminal, and having a second input connected to a reference voltage, the configuration amplifier having an output coupled to the at least one configuration switch.

Esteves et al teaches configuration circuitry comprising a configuration amplifier (261), having a first input connected to an input terminal, and having a second input connected to a reference voltage ( $V_{th}$ ), the configuration amplifier having an output coupled to the at least one configuration switch (266).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the circuit of Kanouda et al to include configuration circuitry that comprises a configuration amplifier, having a first input connected to the input terminal, and having a second input connected to a reference voltage, the configuration amplifier having an output coupled to the at least one configuration switch to change modes of operation as taught by Esteves et al.

Claim 3; Kanouda et al discloses the claimed subject matter in regards to claim 1 supra, except for wherein the at least one configuration switch is in the first position responsive to a voltage at the input terminal being above the reference voltage and is in the second position responsive to a voltage at the input terminal being below the reference voltage.

Esteves et al teaches Esteves et al teaches configuration circuitry comprising a configuration amplifier (261), having a first input connected to an input terminal, and having a second input connected to a reference voltage (V<sub>th</sub>), comprising a configuration amplifier (261), having a first input connected to an input terminal, and having a second input connected to a reference voltage (V<sub>th</sub>), and wherein the configuration circuitry is responsive to a voltage at the input terminal being above the reference voltage and is responsive to a voltage at the input terminal being below the reference voltage.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the circuit of Kanouda et al to include configuration circuitry with the at least one configuration switch in the first position and being responsive to a voltage at the input terminal being above a reference voltage and is in a second position and responsive to a voltage at the input terminal being below the reference voltage as suggested by Esteves et al in order to change modes based on a threshold voltage as taught by Esteves et al.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kanouda et al (US 6,489,756) in view of Basso et al (US 6,452,368).

Kanouda et al discloses the claimed subject matter in regards to claim 1 supra, except for wherein the configuration circuitry comprises a writable configuration register, coupled to the at least one configuration switch, for receiving and storing configuration data indicating the selected mode.

Basso et al teaches using a microcontroller (i.e. configuration circuitry) to control the mode selection. Microcontrollers inherently comprise memory (ROM and RAM) (i.e. writable register) and receive and store data.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize configuration circuitry that comprises a writable configuration register, coupled to the at least one configuration switch, for receiving and storing configuration data indicating the selected mode in order to program the operating characteristics of the power supply and to utilize computer control to increase power conversion efficiency as taught by Basso et al.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kanouda et al (US ) in view of Matsuyama (US 5,969,512).

Kanouda et al discloses the claimed subject matter in regards to claim 1 supra, except for a second voltage regulator, having an output coupled to a second output terminal, for generating a negative polarity regulated voltage.

Matsuyama teaches coupling two regulators together and wherein the second regulator, has an output coupled to a second output terminal, for generating a negative polarity regulated voltage.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to couple two regulators together wherein the second regulator, has an output coupled to a second output terminal, for generating a negative polarity regulated voltage as suggested by Matsuyama in order to provide multiple voltages to a load that demands more than one voltage.

**(10) Response to Argument**

Applicant's arguments filed have been fully considered but they are not persuasive.

First, applicant argues that Kanouda does not disclose or suggest the presently claimed invention including "at least one configuration switch for selectively coupling elements of a feedback circuitry to the output drive circuitry responsive to the control signals from the configuration circuitry." Quite the contrary, Kanouda discloses at least one configuration switch (12a, 12b) for selectively (i.e. switching from position B to position A to decouple fixed value means 10a and to couple feedback means (92, 91, 93, 73, 72 and 71) to the drive circuit 14 through 13) coupling elements of a feedback (7 & 9 et al) to the output drive circuitry 14 (coupled through 13) responsive to the control signals from the configuration circuitry (52). Therefore, the applicant's argument concerning the issue bears no merit; and wherefore, the examiner prays the Board find for the Office on this matter.

Secondly, the applicant argues that elements 12, 13 and 52 (i.e. the alleged configuration circuitry) are not coupled to the output. As an initial matter, the applicant confuses his own claim language. Configuration circuitry or, for that matter, at least one configuration switch being coupled to the output can be found nowhere in the claims. The applicant merely claims the configuration circuitry for receiving a configuration signal; and at least one configuration switch, for selectively coupling elements of a feedback circuitry to the output driver circuitry responsive to control signals from the configuration circuitry. Therefore,

the applicant's argument concerning the issue bears no merit; and wherefore, the examiner prays the Board find for the Office on this matter

Third, in regard to the combination of Kanouda in view of Esteves, the applicant argues that Esteves does not disclose at least one configuration switch for selectively coupling elements of a feedback circuitry to the output driver circuitry responsive to control signals from the configuration circuitry. This argument is irrelevant since the examiner did not rely on Esteves to teach these limitations. The examiner cited Esteves to teach that configuration circuitry may comprises a configuration amplifier, having a first input connected to an input terminal, and having a second input connected to a reference voltage, the configuration amplifier having an output coupled to at least one configuration switch.

Regarding the combination of Kanouda in view of Basso; the examiner still maintains that it would have been obvious to combine these references since the examiner has demonstrated that Kanouda discloses the claimed invention, supra, except for the limitations taught by Basso and the examiner has explained why it would be obvious to one of ordinary skill in the art to combine such references; and moreover, the examiner has explained why someone skill in the art would be motivated to combine such references. Therefore, the examiner prays the Board find for the Office on this matter.

Regarding the combination of Kanouda in view of Matsuyama; the examiner still maintains that it would have been obvious to combine these references since the examiner has demonstrated that Kanouda discloses the

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claimed invention, *supra*, except for the limitations taught by Matsuyama and the examiner has explained why it would be obvious to one of ordinary skill in the art to combine such references; and moreover, the examiner has explained why someone skill in the art would be motivated to combine such references.

Therefore, the examiner prays the Board find for the Office on this matter as well.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Gary L. Laxton  
Primary Examiner  
Art Unit 2838,

April 3, 2006

Conferees:

Adolf D. Berhane



Darren E. Schuberg

